

Boz *my*
37. (New) The method as recited in claim 36, wherein said step of ~~distorting~~ also includes non-linearly amplifying a portion of the frequency bandwidth at the low end.

38. (New) The method as set forth in claim 35 further comprising the step of:

transmitting the enhanced audio signal from one location to another.

IF
39. (New) Sound produced from an audio signal enhanced according to the method as set forth in claim 35.

REMARKS

In general, the above amendments and the following remarks are intended to more accurately describe and claim the present invention.

The Office Action indicates that claim 12 is allowable. Also in the Office Action, the specification was objected to under 35 USC §112, first paragraph, as failing to provide an enabling disclosure. Claims 2, 5, 8-10, 14, 15, 17, 18 and 21-30 were also rejected under 35 USC §112, first paragraph, for the same reasons. The Examiner states that it is unclear how the enhanced audio signal can be non-linear as claimed. It appears from the Office Action that these rejections are based on how the phrase "flat frequency response" is used in the present specification. The instant specification has been amended to eliminate any confusion associated with the use of the phrase "flat frequency response."

An enhanced audio signal, according to the present invention, exhibits an improved harmonic quality compared to that of the original audio signal. Broadly, the present invention

enhances the quality of an electronic audio signal by non-linearly amplifying (i.e., non-linearly increasing the amplitudes of) enhancing harmonics or frequencies in the audio signal. By non-linearly increasing the amplitudes of enhancing harmonics in this manner, the resulting enhanced audio signal exhibits an improved harmonic quality compared to that of the original audio signal.

A typical electronic audio signal has a bandwidth of frequencies with a low end and a high end. One way of identifying a circuit according to the present invention is to transmit an electronic audio signal in the form of a square wave through the circuit. When the square wave audio signal is transmitted through the embodiments disclosed in the present application, the resulting output audio signal is non-linear with frequencies which increase in amplitude as per increasing frequencies from a desired reference frequency toward the high end of the signal. When the square wave is transmitted through some of the embodiments disclosed in the instant application, the output signal will also exhibit an increase in amplitude as per decreasing frequencies from the reference frequency toward its low end. Each of the increasing amplitude as per increasing frequencies and increasing amplitude as per decreasing frequencies occurs over at least a portion of the frequency bandwidth of the signal.

As it applies to the present invention, the phrase "flat frequency response" was intended to refer to the situation where the amplitude of a signal's frequencies are adjusted uniformly across the frequency bandwidth. If the amplitude of all of the frequencies in the signal are amplified uniformly, any existing non-uniformity of the frequency amplitudes should be maintained, because all of the frequencies are increased in

amplitude the same amount. Thus, a uniform increase in the amplitudes of the frequencies which occurs after the energy transfer system 54 will maintain the non-linear distortion of the audio signal that was caused by the system 54. The above amendments to the instant specification clarify this inherent effect of the disclosed embodiments of the present invention.

New claims 31-39 have been added, claims 2, 5, 9, 12, 14, 15, 17, 18, 24, 28 and 29 have been amended, and claims 8, 10, 21-23, 25-27 and 30 have been canceled, without prejudice or disclaimer, to more fully and accurately define the scope of the present invention. Support for the above amendments to the specification and claims can be found generally in the figures and the detailed description section of the specification.

The subject application, as amended, more accurately discloses and claims the enhancement produced by the present invention. The enhancing effect that the present invention has on an electronic audio signal is inherent to the exemplary circuits disclosed in the instant specification. Therefore, the matter added by the above amendments is inherent to the structure disclosed in the instant application, as filed, and as such does not constitute new matter. Accordingly, it is submitted that the above amendments are in compliance with 37 CFR §1.118 and MPEP § 608.04, and as such should be entered.

Until the present invention, electronic audio signals were not enhanced in this manner. The present invention is, thus, a pioneer invention. In addition, it has been discovered that the same or a similar enhancing effect, as that disclosed and claimed in the above amendments, can be obtained using circuitry that does not include a field inducing coil weakly coupled electromagnetically to an electromagnetic field receptor.


Because of its pioneering nature and because such an enhancing effect can be obtained other than by using one of the embodiments disclosed in the instant application, it is submitted that the broad scope of protection being sought with the above amendments (i.e., the basic enhancing effect itself) is warranted.

CONCLUSION

For all of the foregoing reasons, it is respectfully submitted that the specification, the claims 2, 5, 9, 12, 14, 15, 17, 18, 24, 28 and 29, and new claims 31-39, are in full compliance with 35 USC § 112, and, in view of the Office Action, are patentable over the art of record. Accordingly, it is submitted that this case is in condition for allowance and early notification of allowable subject matter is respectfully solicited. If however, after review of the present amendment, there are any issues left unresolved or if the Examiner otherwise believes that an interview with applicant's attorney would be appropriate or helpful, then the Examiner is requested to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

KILLWORTH, GOTTMAN, HAGAN & SCHAEFF

By  7/2/96
Harold C. Knecht, III
Registration No. 35,576

One Dayton Centre
One South Main Street, Suite 500
Dayton, Ohio 45402-2023
Telephone: (513) 223-2050
Facsimile: (513) 223-0724

/HCK